

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2016/2017

BEC 2054 – ECONOMETRICS II

11 MARCH 2017

2.30 p.m – 4.30 p.m

(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of 3 pages with 4 questions only.
2. Attempt **ALL FOUR** questions. The distribution of the marks for each question is given.
3. Please write all your answer in the Answer Booklet provided.

Question One (40 marks)

(a) Write a **short note** to explain the following econometrics concepts:

- (i) Endogenous Variable
- (ii) Stochastic Regressors
- (iii) Causality
- (iv) Instrumental Variable Technique
- (v) Nonstationary Variables

(30 marks)

(b) Match the answer for Column A with the one provided in Column B. [see example (z)]

Column A	Answer
Augmented Dickey-Fuller test	
Durbin h -test	
Second order autoregressive scheme	
Autoregressive conditional heteroscedasticity model	
Two-stage least square	
(z) BLUE	3

Column B
(1) Test of stationarity
(2) $u_t = p_1 u_{t-1} + p_2 u_{t-2} + v_t$
(3) Best Linear Unbiased Estimator
(4) Simultaneous equation model
(5) Volatility measurement
(6) Large sample test of first order serial correlation in autoregressive models

(10 marks)

Continued...

- (b) The results of unit-root tests are shown below. From the result shown in Exhibit 1, find out if the series contains unit-root? What do you conclude about the order of integration of the series. (10 marks)

Exhibit 1: Unit-root tests

		Augmented Dickey-Fuller			Phillips Perron		
KLSE	Constant	-1.3702	(0.5975)	[7]	-1.6509	(0.4556)	[3]
	Constant & trend	-3.2329	(0.0795)	[7]	-2.7775	(0.2065)	[0]
Δ KLSE	Constant	-7.5463	(0.0000)	[6]	-17.7586	(0.0000)	[6]
	Constant & trend	-7.5370	(0.0000)	[6]	-17.7373	(0.0000)	[6]

Notes: Δ denotes changes operator. Values in () and [] refer to p-value and lag-length selected based on AIC, respectively.

Bandwidth selected using Bartlett kernel (Newey-West automatic).

- (c) If a unit-root exists, how would you characterize such time series? (5 marks)

Question Four (20 marks)

- (a) Mr. Law analyses at a time series data and wish to know whether it follows a purely autoregressive process or a purely moving average process. Describe the **four** steps of Box-Jenkins methodology that will help his analysis. (12 marks)

- (b) Puan Napsiah performed ARCH test for the presence of second-order ARCH and check that she obtained the following result (Exhibit 2):

Exhibit 2: Heteroskedasticity Test—ARCH

F-statistic	6.142966	Prob. F(2,413)	0.0023
Obs*R-squared	12.01767	Prob. Chi-Square(2)	0.0025

Is there evidence of ARCH effect? Interpret the results.

(8 marks)

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